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Term: cholesterol and l15

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L16	cholesterol and l15	1	L16
L15	4897355.pn.	2	L15
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L9	l8 with l2	0	L9
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L4	nucleic or dna or polynucleotide or gene	365363	L4
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L7: Entry 1 of 61 File: PGPB Apr 29, 2004

DOCUMENT-IDENTIFIER: US 20040082529 A1
TITLE: Methods and compositions for inducing tumor-specific cytotoxicity

Detail Description Paragraph:
[0183] Viral vectors can be used to transfect cells directly. Plasmid DNA can be delivered into a cell with the help of, for example, cationic polymers, cationic liposomes (e.g., lipofectin, cholesterol derivatives such as D.D.A.B., cationic phospholipids), polylysine conjugates, gramicidin S, artificial viral envelopes or other such intracellular carriers. Alternatively, plasmid DNA can be derivatized (e.g., antibody conjugated). Plasmid DNA can also be administered by direct injection of the naked gene construct, by electroporation, or by calcium phosphate ("CaPO.sub.4") precipitation carried out in vivo. Gene transfer and expression systems for treating cancer have been reported (See, e.g., Cooper et al., 1997, "Safety-modified episomal vectors for human gene therapy", Proc Natl Acad Sci. 94:6450-6455; Cooper, 1996, "Noninfectious gene transfer and expression systems for cancer gene therapy", Semin Oncol. 23:172-187).

Detail Description Paragraph:
[0302] In one embodiment, it may be desirable to administer a vector of the invention locally to the area in need of treatment. Such administration can be achieved, for example, by local infusion during surgery, topical application (e.g., in conjunction with a wound dressing after surgery), injection, catheter, suppository, or implant. An implant can be of a porous, non-porous, or gelatinous material, which includes membranes (e.g., sialastic membranes) or fibers.

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L7: Entry 4 of 61 File: PGPB Feb 12, 2004

DOCUMENT-IDENTIFIER: US 20040029278 A1
TITLE: Eukaryotic layered vector initiation systems

Detail Description Paragraph:
[1085] Topical administration may also be accomplished by encapsulating gene delivery vehicles according to the invention in liposomes. Hyaluronic acid has been used as a bioadhesive ligand for the formation of liposomes to enhance adherence and retention to the extracellular matrix in cases of bums and wound healing (Yerushalmi, et al., Arch. Biochem. and Biophys, 313:267, 1994). As those in the art will appreciate, methods of liposome preparation can be tailored to control size and morphology. Liposomes can also be made to include one or more targeting elements to target a specific cell type.

Detail Description Paragraph:
[1099] Several methods may be used in the preparation of liposomes to incorporate gene delivery vehicles of the invention, particularly those that are DNA or RNA, see Gregoriadis et. al., (Liposome Technology, CFC Press, New York 1984), Ostro et. al., (Liposomes, Marek Dekker, 1987) and Lichtenberg et. al., (Meth. Biochem. Anal. 33:337, 1988). According to one embodiment of the invention, the gene delivery vehicles are complexed with cationic liposomes or lipid vesicles. Cationic liposome formulations may be prepared from a mixture of positively charged lipids, negatively charged lipids, neutral lipids and cholesterol or similar sterol. The positively charged lipids may be DMRIE (Felgner, et. al., J. Biol. Chem. 269:1, 1994), DOTMA, DOTAP or analogs thereof or a combination of two or more of these lipids. DMRIE is described in U.S. Ser. No. 07/686,746 which is hereby incorporated reference. The neutral and negatively charged lipids can be any natural or synthetic phospholipid or mono-, di- or triglycerols. The natural phospholipids may be derived from animal and plant sources. For example, natural phospholipids such as phosphotidylcholine, phosphotidylethanolamine, sphingomylin, phosphotidylserine, or phosphotidylinositol may be utilized. Synthetic phospholipids may be selected from those having fatty acid groups such as dimyristoylphophatidylcholine, distearoylphosphatidylcholine, dipalmitoylphosphatidylcholine, distearoylphophatidylcholine, and the corresponding phophatidylethanolamines and phosphatidylglycerols. The neutral lipids may be phosphatidylcholine, cardiolipin, phosphatidylethanolamine, mono-, di- or triacylglycerols, or analogs thereof such as dioleoylphosphatidylethanolamine (DOPE). The negatively charged lipids may be phosphatidylglycerol, phosphatidic acid or a similar phospholipid analog. Other additive known to those skilled in the art may also be used such as cholesterol, glycolipids, fatty acids, sphingolipids, prostaglandins, gangliosides, neobee, niomes, or any other natural or synthetic amphophiles.

L7: Entry 39 of 61 File: USPT Nov 5, 2002

DOCUMENT-IDENTIFIER: US 6475784 B1
TITLE: Inhibition of angiogenesis by delivery of nucleic acids encoding anti-angiogenic polypeptides

Brief Summary Text (5):
Angiogenesis, the process by which new blood vessels are formed, is essential for embryonic development and other normal physiological processes such as wound healing and formation of the corpus luteum, endometrium and placenta. However, when angiogenesis occurs at an inappropriate time or location, numerous disease states and other undesirable conditions sometimes arise. For example, angiogenesis is involved in other diseases and conditions, including arthritis and atherosclerotic plaques, diabetic retinopathy, neovascular glaucoma, trachoma and corneal graft neovascularization, psoriasis, scleroderma, hemangioma and hypertrophic scarring, vascular adhesions and angiofibroma.

Detailed Description Text (87):
Neutral lipids of use in transfection complexes include, for example, dioleoyl phosphatidylethanolamine (DOPE), Hui et al. (1996) Biophys. J. (71): 590-599; cholesterol, Liu et al. (1997) Nat. Biotech. 15: 167-173; and dilauroyl phosphatidylethanolamine (DLPE) (co-pending patent application Ser. No. 08/832,749, which is incorporated herein by reference). For transfection of vascular endothelial cells by intravenous administration, cholesterol and DLPE are the preferred neutral lipids. Preferably the transfection complex is prepared from liposomes having a 1:1 molar ratio of DOTIM or MBN275 and cholesterol, complexed with plasmid DNA in a 1:6 ratio (.mu.g DNA:nmole cationic lipid). See, WO 96/40962.

L7: Entry 55 of 61 File: USPT Oct 12, 1999

DOCUMENT-IDENTIFIER: US 5965542 A
TITLE: Use of temperature to control the size of cationic liposome/plasmid DNA complexes

Abstract Text (1):
Methods of forming cationic liposome/nucleic acid complexes in which the complexes have a mean diameter of about 200 to about 300 nm are provided. The complexes are formed by combining a first solution of preformed cationic unilamellar liposomes with a mean diameter of from 100 to 150 nm, with a second solution of nucleic acid. Each of the solutions are equilibrated prior to mixing to temperatures of from 0.degree. C. to about 12.degree. C., preferably about 2.degree. C. to about 7.degree. C. The preformed cationic liposomes are typically prepared from an unsaturated cationic lipid, for example DODAC, DOTAP, DOTMA, DODAP, DMRIE, DORI, DOSPA and combinations thereof, and a neutral lipid, for example DOPE or cholesterol. The combination of the first and second solutions is typically carried out by gentle mixing over ice for a period of time of from about 10 to about 60 minutes.

Detailed Description Text (49):
In other methods, the pharmaceutical preparations may be contacted with the target tissue by direct application of the preparation to the tissue. The application may be made by topical, "open" or "closed" procedures. By "topical", it is meant the direct application of the pharmaceutical preparation to a tissue exposed to the environment, such as the skin, oropharynx, external auditory canal, and the like. "Open" procedures are those procedures which include incising the skin of a patient and directly visualizing the underlying tissue to which the pharmaceutical preparations are applied. This is generally accomplished by a surgical procedure, such as a thoracotomy to access the lungs, abdominal laparotomy to access abdominal viscera, or other direct surgical approach to the target tissue. "Closed" procedures are invasive procedures in which the internal target tissues are not directly visualized, but accessed via inserting instruments through small wounds in the skin. For example, the preparations may be administered to the peritoneum by needle lavage. Likewise, the pharmaceutical preparations may be administered to the meninges or spinal cord by infusion during a lumbar puncture followed by appropriate positioning of the patient as commonly practiced for spinal anesthesia or metrazamide imaging of the spinal cord. Alternatively, the preparations may be administered through endoscopic devices.

CLAIMS:

1. A method of preparing cationic liposome/nucleic acid complexes comprising combining a first solution of preformed cationic liposomes with a second solution of nucleic acids, wherein each of said first and second solutions have been pre-equilibrated to temperatures of from 0.degree. C. to 12.degree. C., said preformed cationic liposomes being unilamellar, having a mean diameter of from 100 to 150 nm, and consisting essentially of unsaturated cationic lipids and neutral lipids selected from the group consisting of DOPE, cholesterol and combinations thereof.

L7: Entry 57 of 61 File: USPT Nov 17, 1998

DOCUMENT-IDENTIFIER: US 5837283 A
TITLE: Cationic lipid compositions targeting angiogenic endothelial cells

Brief Summary Text (2):
The present invention can be applied to the treatment and diagnosis of a variety of different diseases and abnormalities. Although the present invention is not limited to such, it can be used in the treatment of cancer, wound healing, and a variety of chronic inflammatory diseases. In general, each is presently treated directly by physical means such as surgical removal of cancerous tissue, suturing of wounds and surgical removal of inflamed joints. Further, each can be treated by chemical means. Chemotherapy is applied to cancers, growth hormones are applied to wound healing and anti-inflammatory drugs are applied to treating chronic inflammatory conditions. These, and related treatments are directed, in general, to treating the cancerous, injured, or inflamed tissue directly. In order to provide an understanding on how the present invention departs from conventional treatment modalities a brief and general description of current treatment technologies in these areas is provided.

Brief Summary Text (8):
WOUND HEALING

Brief Summary Text (9):
Wound healing is a complex and protracted process of tissue repair and remodeling involving many different cell types which requires a finely tuned control of various biochemical reaction cascades to balance the regenerative processes. Wound healing is generally divided into three phases: inflammation, proliferation, and maturation (Waldorf, H., and Fewkes, J., 1995, "Wound Healing," Adv. Dermatol. 10:77-96). The process comprises the migration of different cell types into the wound region, growth stimulation of epithelial cells and fibroblasts, formation of new blood vessels, and the generation of extracellular matrix. The correct functioning of these processes depends on the biological activation of various cytokines (Bennett, N. T., and Schultz, G. S., 1993, "Growth factors and wound healing: biochemical properties of growth factors and their receptors," Am. J. Surg. 165:728-37). Nutrition, the immune system, oxygen, blood volume, infection, immunosuppression, and a decrease in red blood cells are all influential factors in wound healing (Witney, J. D., 1989, "Physiological Effects of tissue oxygenation on wound healing," Heart Lung 18: 466-474).

Brief Summary Text (10):
The quality as well as the rate of wound healing is usually dependent on the type and extent of the original injury. Three general types of process are used to treat wounds, each of which is directed to healing the damaged tissue. Closure of wounds is most commonly accomplished by suturing, although tapes, stapling or electrocautery can also be used (Wheeless, C. R., 1996, Wheeless' Textbook of Orthaedics) (Garrett, W. E., et al., 1984, J. Hand. Surg. 9(5):683-92). Skin tapes and various sutures each exhibit certain benefits and disadvantages in primary closure of wounds. Skin tapes cause less inflammatory reaction but fail to close the subepithelial wound spaces, while the inflammatory reaction and subsequent scarring caused by various sutures depends upon the size of the suture needle, the diameter of the suture material, and whether it is a monofilament or woven suture

(Simpson, W. R., 1977, "Physiological principles of therapy in head and neck cutaneous wounds," Laryngoscope 87: 792-816).

Brief Summary Text (11):
In a wound, the size of an inoculum of microorganisms, the virulence of the organisms, and host antimicrobial defense mechanisms determine if an infection will develop. Thus, antibiotics can also be of therapeutic value in the treatment of wounds (Edlich, R. F., et al., 1986, "Antimicrobial treatment of minor soft tissue lacerations: a critical review," Emergency Medical Clinics of North America 4 (3) :561-80). The pharmacological action of each antibiotic must be understood in order to choose the proper antibiotic, its route of administration, and to avoid side effects (Simpson, W. R., supra). Recent results suggest that antibiotic therapy allows cell proliferation and differentiation to proceed more rapidly and thus may be helpful in augmenting wound repair (Barrow, R. E., et al., 1994, "Efficacy of cefazolin in promoting ovine tracheal epithelial repair," Respiration 61:231-5; Maeder, K., et al., 1993, "Methicillin-resistant Staphylococcus aureus (MRSA) colonization in patients with spinal cord injury," Paraplegia 31: 639-44). Proteolytic enzymes have also been used as adjuncts to antibiotic treatment of contaminated wounds (Rodeheaver, G. T., et al., 1978, "Mechanisms by which proteolytic enzymes prolong the golden period of antibiotic action," Am. J. Surg. 136(3) :379-82).

Brief Summary Text (12):
The topical administration of various cytokines, including bFGF, EGF, PDGF, and TGF-beta, either alone or in combination, may considerably accelerate wound healing (Moulin, V., 1995, "Growth factors in skin wound healing," Eur. J. Cell. Biol. 68:1-7). Growth factors attract cells into the wound, stimulate their proliferation, and have profound influence on extracellular matrix deposition. Since developing the ability to mass-produce these cytokines by recombinant techniques, many studies have demonstrated that growth factors can augment all aspects of tissue repair in normal and impaired healing models (e.g., Schultz, G. S., et al., 1987, "Epithelial wound healing enhanced by transforming growth factor-alpha and vaccinia growth factor," Science 235: 350-2; Deuel, T. F., et al., 1991, "Growth factor and wound healing: platelet derived growth factor as a model cytokine," Annu. Rev. Med. 42: 567-84). Although preliminary clinical trials have shown that growth factor treatment has occasionally led to statistically significant improvements in tissue repair, it is not clear that these results are clinically significant, and it has been suggested that new clinical trials must focus on targeting growth factors for specific types of impaired healing (Greenhalgh, D. G., 1996, "The role of growth factors in wound healing," J. Trauma 41:159-67).

Brief Summary Text (34):
Yet another advantage of the invention is that the cationic liposomes can be used to provide for site directed delivery of compounds which promote angiogenesis and thereby enhance wound healing.

Detailed Description Text (13):
Angiogenesis is also involved in wound healing and in the pathogenesis of a large number of clinical diseases including tissue inflammation, arthritis, asthma, tumor growth, diabetic retinopathy, and other conditions. Clinical manifestations associated with angiogenesis are referred to as angiogenic diseases (Folkman, J. and Klagsbrun, M., 1987, Science 235: 442-7).

Detailed Description Text (18):
Endothelial cells form new capillaries in vivo when there is a need for them, such as during wound repair or when there is a perceived need for them as in tumor formation. The formation of new vessels is termed angiogenesis, and involves molecules (angiogenic factors) which can be mitogenic or chemoattractant for endothelial cells (Klagsburn, supra). During angiogenesis, endothelial cells can

migrate out from an existing capillary to begin the formation of a new vessel i.e., the cells of one vessel migrate in a manner which allows for extension of that vessel (Speidel, C. C., Am J. Anat. 52: 1-79). In vitro studies have documented both the proliferation and migration of endothelial cells; endothelial cells placed in culture can proliferate and spontaneously develop capillary tubes (Folkman, J., and Haudenschild, C., 1980, Nature 288:551-56).

Detailed Description Text (19):
The terms "angiogenic endothelial cells" and "endothelial cells undergoing angiogenesis" and the like are used interchangeably herein to mean endothelial cells (as defined above) undergoing angiogenesis (as defined above). Thus, angiogenic endothelial cells are endothelial cells which are proliferating at a rate far beyond the normal condition of undergoing cell division roughly once a year. The rate of differentiation from normal proliferation of endothelial cells may be 2.times., 5.times., or 10.times. or more that of normal proliferation and can vary greatly depending on factors such as the age and condition of the patient, the type of tumor involved, the type of wound, etc. Provided the difference in the degree of proliferation between normal endothelial cells and angiogenic endothelial cells is measurable and considered biologically significant then the two types of cells are differentiable per the present invention, i.e., angiogenic endothelial cells differentiable from corresponding, normal, quiescent endothelial cells in terms of preferential binding of cationic liposomes.

Detailed Description Text (49):
The compounding of cationic liposomes with a substance which affects angiogenesis and/or a label includes the liposome preparation wherein liposomes are prepared according to standard technology whereby, for example, solutions of 1-{2-(9(Z)-octadecenoyloxy)ethyl}-2-(8(Z)-heptadecenyl)3-(2-hydroxyethyl) imidazolinium chloride 9DOTAP), cholesterol, and Texas Red DHPE are mixed, evaporated to dryness and the lipid film is subsequently rehydrated in 5% dextrose to yield multi lamellar vesicles. These vesicles are extruded through polycarbonate membrane filters to yield unilamellar vesicles. Liposomes and the substance to be compounded, for example plasmid DNA, are mixed together in specific ratios in a 5% dextrose solution or other physiologically acceptable excipient. Useful cationic lipids include: DDAB, dimethyldioctadecyl ammonium bromide [available from Avanti Polar Lipids and Sigma Chemical Company] 1,2-diacyl-3-trimethylammonium-propanes, (including but not limited to, dioleoyl (DOTAP), dimyristoyl, dipalmitoyl, disearoyl) [these are all available from Avanti Polar Lipids]; 1,2-diacyl-3-dimethylammonium-propanes, (including but not limited to, dioleoyl, dimyristoyl, dipalmitoyl, disearoyl) [these are all available from Avanti Polar Lipids] DOTMA, N-[1-[2,3-bis(oleoyloxy)]propyl]-N,N,N-trimethylammonium chloride, DOGS, dioctadecylamidoglycylspermine [available from Promega Corporation] DC-cholesterol, 3b- [N-(N',N'-dimethylaminoethane)carbamoyl]cholesterol DOSPA, 2,3-dioleoyloxy-N-(2(sperminecarboxamido)ethyl)-N,N-dimethyl-1-propanamini um trifluoroacetate, 1,2-diacyl-sn-glycero-3-ethylphosphocholines (including but not limited to dioleoyl (DOEPC), dilauroyl, dimyristoyl, dipalmitoyl, distearoyl, palmitoyl-oleoyl) [these are all available from Avanti Polar Lipids]; b-alanyl cholesterol, CTAB, cetyl trimethyl ammonium bromide diC14-amidine, N-t-butyl-N'-tetradecyl-3-tetradecylaminopropionamidine, 14Dea2, O,O'-ditetradecanolyl-N-(trimethylammonioacetyl) diethanolamine chloride, (N,N,N',N'-tetramethyl-N,N'-bis(2-hydroxylethyl)-2,3-diol eoyloxy-1,4-butanediammonium iodide [available from Promega Corporation] 1-[2-acyloxy)ethyl]2-alkyl (alkenyl)-3-(2-hydroxyethyl) imidazolinium chloride derivatives such as 1-[2-(9(Z)-octadecenoyloxy)ethyl]-2-(8(Z)-heptadecenyl-3-(2-hydroxyethyl)i midazolinium chloride (DOTIM), 1-[2-(hexadecanoyloxy)ethyl]-2-pentadecyl-3-(2-hydroxyeth yl)imidazolinium chloride (DPTIM); 1-[2-tetradecanoyloxy)ethyl]-2-tridecyl-3-(2-hydroxyethyl)imidazolium chloride (DMTIM)--these 3 lipids are described in Solodin et al, Biochem 43, 135737-13544, 1995. This is from Tim Heath's lab in Wisconsin; Megabios have acquired the patents for some of his lipid inventions.

Detailed Description Text (66):
A number of biological compounds stimulate angiogenesis. Angiogenin has been shown to be a potent angiogenic factor in the chick CAM or rabbit cornea. Angiotrophin, a factor isolated in peripheral blood monocytes, is another angiogenic compound that has been proposed to play a role in normal wound healing (Biochemistry 27, 6282 (1988)). Other factors involved in wound healing, such as fibrin, also induce ascularization.

Detailed Description Text (103):
Cationic small unilamellar vesicle liposomes were prepared from the cationic lipid DDAB or DOTAP and the neutral lipid DOPE or cholesterol, labeled with Texas Red or the red fluorescent carbocyanine dye DiI or CM-DiI, and in some cases complexed to plasmid DNA containing a reporter gene such as luciferase or .beta.-galactosidase. Endothelial cells were labeled using the fluorescent plant lectin fluorescein-Lycopersicon esculentum. Monocyte/macrophages were labeled by using fluorescent beads (Duke, 500 nm). Cell nuclei were labeled with DAPI, YO-PRO, or Hoechst 33342 dye.

Detailed Description Text (125):
Methods: Cationic DOTAP:cholesterol small unilamellar vesicle liposomes, labeled with Texas Red-DHPE, were prepared. Liposome-DNA complexes were prepared at a total lipid:DNA ratio of 24:1 (nmoles/.mu.g) in 5% glucose, using 60 .mu.g of plasmid DNA in 300 .mu.l. Complexes (300 .mu.l) were injected into tail veins of unanesthetized transgenic RIP1-Tag2 C57BL/6 mice and unanesthetized normal C57BL/6 mice.

Detailed Description Text (138):
Methods: Cationic DOTAP:cholesterol liposomes, labeled with Texas Red-DHPE, were prepared as described under Example 3. Liposomes were injected into a tail vein of mice at a dose of 360 nmol total lipid in a volume of 100 .mu.l in 5% glucose. Rats were infected via the femoral vein. Liposome-DNA complexes were prepared at a total lipid:DNA ratio of 24:1 in 5% glucose, using 60 .mu.g of plasmid DNA in 200-300 .mu.l. Liposomes or complexes (200-300 .mu.l) were injected into a tail vein of unanesthetized RIP-Tag2, HPV, or M. pulmonis-infected mice. Non-transgenic, pathogen-free mice were used as controls.

L7: Entry 58 of 61 File: USPT Sep 29, 1998

DOCUMENT-IDENTIFIER: US 5814482 A
** See image for Certificate of Correction **
TITLE: Eukaryotic layered vector initiation systems

Detailed Description Text (1022):
Topical administration may also be accomplished by encapsulating gene delivery vehicles according to the invention in liposomes. Hyaluronic acid has been used as a bioadhesive ligand for the formation of liposomes to enhance adherence and retention to the extracellular matrix in cases of bums and wound healing (Yerushalmi, et al., Arch. Biochem. and Biophys, 313:267, 1994). As those in the art will appreciate, methods of liposome preparation can be tailored to control size and morphology. Liposomes can also be made to include one or more targeting elements to target a specific cell type.

Detailed Description Text (1036):
Several methods may be used in the preparation of liposomes to incorporate gene delivery vehicles of the invention, particularly those that are DNA or RNA, see Gregoriadis et. al., (Liposome Technology, CFC Press, New York 1984), Ostro et. al., (Liposomes, Marek Dekker, 1987) and Lichtenberg et. al., (Meth. Biochem. Anal. 33:337, 1988). According to one embodiment of the invention, the gene delivery vehicles are complexed with cationic liposomes or lipid vesicles. Cationic liposome formulations may be prepared from a mixture of positively charged lipids, negatively charged lipids, neutral lipids and cholesterol or similar sterol. The positively charged lipids may be DMRIE (Felgner, et. al., J. Biol. Chem. 269:1, 1994), DOTMA, DOTAP or analogs thereof or a combination of two or more of these lipids. DMRIE is described in U.S. Ser. No. 07/686,746 which is hereby incorporated reference. The neutral and negatively charged lipids can be any natural or synthetic phospholipid or mono-, di- or triglycerols. The natural phospholipids may be derived from animal and plant sources. For example, natural phospholipids such as phosphotidylcholine, phosphotidylethanolamine, sphingomylin, phosphotidylserine, or phosphotidylinositol may be utilized. Synthetic phospholipids may be selected from those having fatty acid groups such as dimyristoylphophatidylcholine, distearoylphosphatidylcholine, dipalmitoylphosphatidylcholine, distearoylphosphatidylcholine, and the corresponding phosphatidylethanolamines and phosphatidylglycerols. The neutral lipids may be phosphatidylcholine, cardiolipin, phosphatidylethanolamine, mono-, di- or triacylglycerols, or analogs thereof such as dioleoylphosphatidylethanolamine (DOPE). The negatively charged lipids may be phosphatidylglycerol, phosphatidic acid or a similar phospholipid analog. Other additive known to those skilled in the art may also be used such as cholesterol, glycolipids, fatty acids, sphingolipids, prostaglandins, gangliosides, neobee, niomes, or any other natural or synthetic amphophiles.

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L16: Entry 1 of 1 File: USPT Jan 30, 1990

DOCUMENT-IDENTIFIER: US 4897355 A
TITLE: N[.omega.,(.omega.-1)-dialkyloxy]- and N-[.omega.,(.omega.-1)-dialkenyloxy]-alk-1-yl-N,N,N-tetrasubstituted ammonium lipids and uses therefor

Brief Summary Text (122):
Additional additives may be long chain alcohols and diols; sterols, for example, cholesterol; phosphoric esters of fatty alcohols, for example, sodium dicetyl phosphate; alkylsulfates, for example, sodium cetyl sulfate; certain polymers such as polypeptides; positively-charged lipids such as stearylamine or dioctadecyldimethyl ammonium bromide; and proteins.

Detailed Description Text (39):
(7) Distearoylphosphatidyl choline, 2.22 mg, 1 mg N-(2,3-di-(9-(Z)-octadecenyloxy))-prop-1-yl-N,N,N-trimethyl ammonium chloride and 0.23 mg of cholesterol were dissolved in 1 ml chloroform. Solvent was removed under a stream of nitrogen and the residue placed under vacuum overnight. The dried film was suspended in 6 mM phosphate buffered saline containing 8% Triton X-100 (0.5 ml). To this was added 50 .mu.g of lectin affinity column purified bovine herpes antigen. Then 1 ml of packed BioBeads was added (to remove Triton X-100) and shaken gently for 2 hours at 55.degree. C., after which the BioBeads were decanted.